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IS 7948 (1987): Fenthion EC [FAD 1: Pesticides and Pesticides Residue Analysis]



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IS : 7948 - 1987

Indian Standard
SPECIFICATION FOR FENTHION EC
(First Revision)

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**BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002**

Gr 2

August 1987

Indian Standard

SPECIFICATION FOR FENTHION EC

(First Revision)

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**AMENDMENT NO. 1 SEPTEMBER 1988
TO
IS : 7948 - 1987 SPECIFICATION FOR
FENTHION EC**

(First Revision)

(Page 4, clause 2.2.5) — Add the following note at the end of the clause:

'Note -- The material need not be subjected to heat treatment if it has crossed half of its shelf life as ascertained from the date of manufacture and date of expiry declared on the container.'

(AFCDC 6)

Printed at Swatantra Bharat Press, Delhi, India

AMENDMENT NO. 2 APRIL 1989
TO
IS : 7948 - 1987 SPECIFICATION FOR FENTHION EC
(First Revision)

(*Page 3, clause 0.3*) — Substitute the following for the existing clause:
'0.3 Fenthion EC formulations are generally manufactured to contain
82.5 percent (*m/m*) of fenthion.'

(*Page 5, clause 2.3.2, line 3*) — Substitute '0.3' for '0.1.'

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(ATCDC 6)

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Printed at Printwell Printers, Delhi, India

AMENDMENT NO. 3 MAY 1994
TO
IS 7948 : 1987 SPECIFICATION FOR FENTHION EC
(*First Revision*)

(*Page 4 clause 2.2.5*) — Delete.

(*Page 6, clause 4.1*) — Substitute the following for the existing:

'When freshly manufactured material in bulk quantity is offered for inspection, representative samples of the material shall be drawn and tested as prescribed in IS 10627 : 1983 within 90 days of its manufacture. When the material is offered for inspection after 90 days of its manufacture, sampling shall be done as prescribed in IS 10627 : 1983. However, the criteria for conformity of the material when tested, shall be the limits of tolerances, as applicable over the declared nominal value and given under clause 2.3.1 of the standard.'

(FAD 1)

Reprography Unit, BIS, New Delhi, India

Indian Standard
SPECIFICATION FOR FENTHION EC
(First Revision)

0. FOREWORD

0.1 This Indian Standard (First Revision) was adopted by the Indian Standards Institution on 31 March 1987, after the draft finalized by the Pest Control Sectional Committee had been approved by the Agricultural and Food Products Division Council and the Chemical Division Council.

0.2 Fenthion EC, containing varying percentages of fenthion, are largely used in the control of insect pests of agricultural crops.

0.3 Fenthion EC formulations are generally manufactured to contain 50.0 percent and 82.5 percent (*m/m*) of fenthion.

0.4 In the preparation of this standard due consideration has been given to the provisions of the *Insecticides Act*, 1968 and the *Rules* framed thereunder. However, this standard is subject to the restrictions imposed under these, wherever applicable.

0.5 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard prescribes the requirements and the methods of sampling and test for fenthion EC.

2. REQUIREMENTS

2.1 **Constituents** — The material shall consist of fenthion, technical dissolved in suitable solvent(s) together with emulsifying agent(s) and with or without stabilizer(s).

*Rules for rounding off numerical values (*revised*).

IS : 7948 - 1987

2.1.1 Fenthion, technical, employed in the manufacture of this material shall conform to IS : 7950-1976*.

2.2 Physical — The material shall comply with the physical requirements given in 2.2.1 to 2.2.4.

2.2.1 Description — The material shall be in the form of clear, stable and homogeneous liquid free from foreign matter. Sediment and/or suspended matter shall be negligible. On dilution with water it shall form an emulsion, suitable for spray.

2.2.2 Cold Test — No turbidity or separation of solid and/or oily matter shall occur when the material is subjected to the cold test at 10 °C as prescribed in 13.1 of IS : 6940-1982† or any other lower temperature as agreed to between the purchaser and the vendor. Introduction of a seeding crystal is not necessary for the test.

2.2.3 Flash Point (Abel) — When determined by the method prescribed in IS : 1448 [P : 20]-1982‡, the flash point of the material shall be above 24.5 °C.

2.2.4 Emulsion Stability — Any separation including creaming at the top and sedimentation at the bottom of 100 ml of emulsion prepared in standard hard water with 2.0 ml of the concentrate for agriculture use and 5.0 ml for public health use shall not exceed 2.0 ml when tested by one of the methods prescribed in 13.3 of IS : 6940-1982†.

2.2.5 Heat Stability — After treating in accordance with the method prescribed in 13.4 of IS : 6940-1982* the material shall comply with the requirements of 2.2.1 to 2.2.4 and 2.3.1.

NOTE — The material need not be put to heat stability treatment if it has crossed half of its shelf life [see 3.2 (c)].

2.3 Chemical — The material shall comply with the following chemical requirements.

2.3.1 Fenthion Content — When determined by the method prescribed in Appendix A of IS : 7950-1976*, the observed fenthion content, percent

*Specification for fenthion, technical.

†Methods of test for pesticides and their formulations (*first revision*).

‡Methods of test for petroleum and its products, P : 20 Flash point by Abel apparatus (*first revision*).

by mass, of any of the samples shall not differ from the declared nominal value by more than the appropriate tolerance given below:

<i>Nominal value, Percent</i>	<i>Tolerance, Percent</i>	
Up to 9	+ 10 - 5	} of the nominal value
Above 9 and below 50	± 5	
50 and above	+ 5 - 3	

2.3.1.1 The actual value of fenthion content shall be calculated to second decimal places and then rounded off to first decimal place before applying the tolerances given in 2.3.1.

2.3.1.2 The average fenthion content of all the samples taken shall not be less than the declared nominal value.

2.3.2 Acidity/Alkalinity — When tested by the method prescribed in 11.3 of IS : 6940-1982*, the acidity (as H_2SO_4), if any, shall be not more than 0.1 percent by mass. The material shall not be alkaline to litmus paper when tested by method given in 13.5.1 of IS : 6940-1982*.

3. PACKING AND MARKING

3.1 Packing — The material shall be packed as per the requirements given in IS : 8190 (Part 2) - 1980†.

3.2 Marking — The containers shall be securely closed and shall bear legibly and indelibly the following information in addition to the information as is necessary under the *Insecticides Act and Rules*:

- Name of the material and end use;
- Name of the manufacturer;
- Date of manufacture and date of expiry;
- Batch number;
- Nominal fenthion content, percent (*m/m*);
- Net volume of contents; and
- Minimum cautionary notice as worded in the *Insecticides Act*.

3.2.1 The containers may also be marked with the Standard Mark.

NOTE — The use of the Standard Mark is governed by the provisions of the Bureau of Indian Standards Act, 1986 and the Rules and Regulations made thereunder. The Standard Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well defined system of inspection, testing and quality control which is devised and supervised by BIS and operated by the producer. Standard marked products are also continuously checked by BIS for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

*Methods of test for pesticides and their formulations (*first revision*).

†Requirements for packing of pesticides: Part 2 Liquid pesticides (*first revision*).

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4. SAMPLING

4.1 Representative samples of the material shall be drawn as per IS : 10627-1983*.

5. TESTS

5.1 Tests shall be carried out by the methods referred to in 2.2.2 to 2.2.5, 2.3.1 and 2.3.2.

5.2 Quality of Reagents — Unless specified otherwise, pure chemicals and distilled water (see IS : 1070-1977†) shall be employed in tests.

NOTE — ' Pure chemicals ' shall mean chemicals that do not contain impurities which affect the results of analysis.

*Methods for sampling of pesticidal formulations.

†Specification for water for general laboratory use (*second revision*).

INTERNATIONAL SYSTEM OF UNITS (SI UNITS)

Base Units

<i>Quantity</i>	<i>Unit</i>	<i>Symbol</i>
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

Supplementary Units

<i>Quantity</i>	<i>Unit</i>	<i>Symbol</i>
Plane angle	radian	rad
Solid angle	steradian	sr

Derived Units

<i>Quantity</i>	<i>Unit</i>	<i>Symbol</i>	<i>Definition</i>
Force	newton	N	$1 \text{ N} = 1 \text{ kg.m/s}^2$
Energy	joule	J	$1 \text{ J} = 1 \text{ N.m}$
Power	watt	W	$1 \text{ W} = 1 \text{ J/s}$
Flux	weber	Wb	$1 \text{ Wb} = 1 \text{ V.s}$
Flux density	tesla	T	$1 \text{ T} = 1 \text{ Wb/m}^2$
Frequency	hertz	Hz	$1 \text{ Hz} = 1 \text{ c/s(s}^{-1}\text{)}$
Electric conductance	siemens	S	$1 \text{ S} = 1 \text{ A/V}$
Electromotive force	volt	V	$1 \text{ V} = 1 \text{ W/A}$
Pressure, stress	pascal	Pa	$1 \text{ Pa} = 1 \text{ N/m}^2$

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